

# Naval Surface Warfare Center - Dahlgren

**EPA Region 3**

Virginia

King George County

Dahlgren

**EPA ID#** VA7170024684

**1st Congressional District**

**Last Update:** May  
2000

**Other Names:** None

## Current Site Status

The Naval Surface Warfare Center-Dahlgren (NSWC) has taken action at four of the contaminated sites at the facility and is undertaking the design for action at a fifth site. A RCRA Subtitle C landfill cap was installed at the Fenced Ordnance Burial Area (Site 2) in the summer of 1998 and at the same time the Air Sparging and Soil Vapor Extraction System was installed at the Chemical Burn Area (Site 12). A removal action was performed to close the Rocket Motor Pit/Ordnance Burn Structure (Sites 3 and 44) in late 1998. A RCRA Subtitle D landfill cap, was completed at the Disposal/Burn Area (Site 9), to properly close the old landfill in the fall of 1999. Another landfill closure is planned for the 1400 Area Landfill (Site 17) and a 100% design plan was submitted in January 2000. The Site 17 design incorporates phytoremediation as a component for a landfill cap. After earlier removal actions reduced possible risks related to two small sites, the Navy and EPA signed a No Further Action (NFA) Record of Decision (ROD) in September 1999 for the Transformer Draining Area (Site 19) and the Battery Service Area (Site 29). At the same time a

ROD for the Pesticide Rinse Area (Site 25) was signed to cleanup pesticide contaminated soils and sediments. Remedial design at Site 25 is planned to start by late 2000.

Additional investigations at the facility will be undertaken in 2000 and there are plans for two additional Records of Decision to be issued this year.

## Site Description

NSWC is approximately 4,300 acres and located 40 miles south of Washington, D.C. along the Potomac River. This naval facility, established in 1918, conducts research, development, testing, and evaluation of surface ship weaponry. Activities at Main Side, a 2,678-acre area include air operations, ordnance testing, laboratory testing, computer facilities, administrative offices, and residences. The Explosive Experimental Area (EEA), is an isolated testing range located on 1,614 acres. Both areas are separated by the Upper Machodoc Creek. Two aquifers underlying NSWC provide non-contaminated drinking water to the nearby population: the shallow Nanjemoy aquifer, supplies a small number of private residences, and the deeper Potomac Group aquifer supplies the municipal and NSWC water systems. Wetlands along Gambo Creek, an unidentified drainage area, and the Potomac River are environmental concerns. Municipal and private wells located within 4 miles of the site supply an estimated 6,900 people.

The Navy has identified several sources of contamination at NSWC. The Fenced Ordnance Burial Area (Site 2), was used for burial for excess munitions and has metals detected in the surface soils, in addition to several nearby trenches filled with wastes. The Disposal/Burn Area (Site 9), a 2 - 3 acre landfill is contaminated with polyaromatic hydrocarbons (PAHs) and the soils and sediment contain phenols, metals, pesticides waste. Site 9 is a threat to the groundwater as well as to the wetlands that surround the landfill. Hideaway Pond (Site 10) contains sediment and fish which are contaminated with mercury. The Chemical Burn Area (Site 12), was used for decontamination of testing materials and has 1,1,1 trichloroethane (TCA) in the alluvial aquifer below the site. The 1400 Area Landfill (Site 17), 5 to 10 acres in size, received municipal waste for three years in the 1970s and canisters of mercury may have been

disposed of in this area. Low levels of mercury were detected in groundwater underlying Site 17 and in stream sediments nearby. The Transformer Draining Area (Site 19), where electrical transformer oil containing polychlorinated biphenyls (PCBs) was drained has PCB contamination to a depth of 4 feet. The Former Electroplating Waste Underground Storage Tank (Site 20) has minor solvent contamination in the groundwater. The Pesticide Rinse Area (Site 25), where pesticide containers were rinsed is contaminated with pesticides. The Lead Contamination Area (Site 37) contains used sand from firing ranges with residual heavy metals as contaminants. Landfill A: Stump Dump Road (Site 46) used in the 1940's and 1950's for general disposal has PAH, PCB, and heavy metal contamination. The Fill Areas Northeast EEA (Site 50) is a small burial dump that has PAH and heavy metal contamination. The Gambo Creek Ash Dump (Site 61) where residual ash was deposited, may contain heavy metals, especially mercury and is in contact with sediments in Gambo Creek. There are also six sites that are related to the former use of munitions, including depleted uranium, and explosives.

### **Site Responsibility**

Cleanup of this site is the responsibility of the Federal government.

### **NPL Listing History**


This site was proposed to the National Priorities List of the most serious uncontrolled or abandoned hazardous waste sites requiring long term remedial action on February 7, 1992. The site was formally added to the list October 14, 1992, making it eligible for federal cleanup funds.

## **Threats and Contaminants**

The response actions undertaken by the Navy has greatly reduced the potential threats and risk from several sites. Low levels of mercury were detected in ground water underlying Site 17 and stream sediments in the vicinity of the landfill. Sediments and the fish of Hideaway Pond, located downstream from the landfill, also are contaminated with mercury. Both these sites will be addressed over the next two years. 1,1,1-trichloroethane (TCA) has been detected in the alluvial aquifer below Site 12. A response action was started at this site in 1998. Site 9 was a threat to the ground water below its location as well as to the wetlands that surround the landfill. The

completed cap has eliminated the exposure threat from this site. Selected metals were detected in the surface soils in addition to several trenches filled with wastes near Site 2.

The completed cap has also eliminated the exposure threat from this site. PCBs were discovered in the soil of the Transformer Area to a depth of 4 feet. A removal action has reduced the potential threat at this site, and a NFA Record of Decision was signed in September 1999. Soils at the Pesticide Rinse area are contaminated with several pesticides and remedial action at this site should start in 2000.

Contaminant descriptions and associated risk factors are available on the Agency for Toxic Substance and Disease Registry, an arm of the CDC, web site at <http://www.atsdr.cdc.gov/hazdat.html> 

## Cleanup Progress

The Navy removed soil from a small PCB-contaminated area at Site 19. Additionally, a small area contaminated with radioactive material was removed. The Navy also removed two other small piles of soil that contain depleted uranium in 1999 and closure of these sites should be completed in 2000.

A RCRA Subtitle C landfill cap was installed at the Fenced Ordnance Burial Area (Site 2) in the summer of 1998 and at the same time the Air Sparging and Soil Vapor Extraction System was installed at the Chemical Burn Area (Site 12). A removal action was performed to close the Rocket Motor Pit/Ordnance Burn Structure (Sites 3 and 44) in late 1998. The Disposal/Burn Area (Site 9) and the 1400 Area Landfill (Site 17) had Record of Decisions (RODs) signed in September 1998 and the cap for Site 9 was completed in October 1999. A remedial design and work plan has been submitted for Site 17 and construction is planned for summer 2000. The Pesticide Rinse Area (Site 25), and the Transformer Draining Area/Battery Service Area (Sites 19 and 29) had RODs signed in September 1999. Remedial design is planned for Site 25 in 2000. Hideaway Pond (Site 10), is scheduled for a ROD in 2000.

Continuing investigations are underway at lower priority (lower risk) areas across NSWC.

# Contacts

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The detailed Administrative Record can be examined at the following locations:

Smoot Memorial Library

Route 3

King George, Virginia 22485

Dahlgren Laboratory General Library

Welsh Road

Dahlgren, Virginia 22448